

Title (en)  
HEAT EXCHANGER

Title (de)  
WÄRMETAUSCHER

Title (fr)  
ÉCHANGEUR DE CHALEUR

Publication  
**EP 3714216 B1 20230927 (EN)**

Application  
**EP 18881040 A 20181122**

Priority  
• US 201715822426 A 20171127  
• IL 25587717 A 20171123  
• IL 2018051266 W 20181122

Abstract (en)  
[origin: US2019154350A1] A heat exchanger comprises a stack of sets of fins and tubes attached to or encompassed by embossed plates comprising a void. In some embodiments, the fins overlap the void having a peripheral margin of the fin attached to the peripheral margin around the void. In some embodiments, the fins comprise through fluid apertures allowing lateral fluid flow. In some embodiments, the plates comprise lateral peripheral protrusions enabling selective sealing of gaps between adjacent stacked plates by unselective application of heat or adhesive to a face of the heat exchanger. In some embodiments, the plates comprise uniformizing protrusions in a fluid inlet and/or outlet zone that reduce the amount of non-uniform fluid mass flow between different channel protrusions of heat exchanging zones of the set. Also disclosed are methods for assembly and selective sealing of the heat exchanger and an apparatus comprising the same.

IPC 8 full level  
**F24F 3/14** (2006.01); **F28D 1/04** (2006.01); **F28D 1/047** (2006.01); **F28D 7/08** (2006.01); **F28D 9/00** (2006.01); **F28F 1/32** (2006.01); **F28F 3/02** (2006.01); **F28F 3/08** (2006.01); **F28F 9/00** (2006.01)

CPC (source: EP IL US)  
**B01D 53/265** (2013.01 - EP US); **B21D 53/04** (2013.01 - EP US); **B23P 15/26** (2013.01 - EP US); **E03B 3/28** (2013.01 - US); **F24F 3/14** (2013.01 - IL); **F28D 1/0461** (2013.01 - EP IL US); **F28D 1/0477** (2013.01 - IL); **F28D 7/085** (2013.01 - IL); **F28D 9/0062** (2013.01 - IL); **F28D 9/0093** (2013.01 - EP US); **F28F 1/32** (2013.01 - IL); **F28F 1/325** (2013.01 - EP US); **F28F 3/08** (2013.01 - US); **F28F 3/086** (2013.01 - EP IL US); **F28F 9/001** (2013.01 - IL); **F28F 9/0265** (2013.01 - IL); **F28F 9/0275** (2013.01 - IL); **F28F 17/005** (2013.01 - IL); **E03B 3/28** (2013.01 - EP); **F28D 2021/0038** (2013.01 - EP US); **F28D 2021/0071** (2013.01 - EP US)

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**US 11592238 B2 20230228**; **US 2019154350 A1 20190523**; AU 2018371285 A1 20200709; BR 112020015849 A2 20201208; CN 111886454 A 20201103; CN 111886454 B 20220909; EP 3714216 A1 20200930; EP 3714216 A4 20211201; EP 3714216 B1 20230927; EP 3714216 C0 20230927; EP 4257913 A2 20231011; EP 4257913 A3 20231101; IL 255877 A 20180131; IL 255877 B 20191231; RU 2020120666 A 20211223; RU 2020120666 A3 20220324; US 2023184493 A1 20230615; WO 2019102466 A1 20190531; ZA 202000713 B 20200527

DOCDB simple family (application)  
**US 201715822426 A 20171127**; AU 2018371285 A 20181122; BR 112020015849 A 20181122; CN 201880084921 A 20181122; EP 18881040 A 20181122; EP 23194374 A 20181122; IL 2018051266 W 20181122; IL 25587717 A 20171123; RU 2020120666 A 20181122; US 202318107104 A 20230208; ZA 202000713 A 20200204